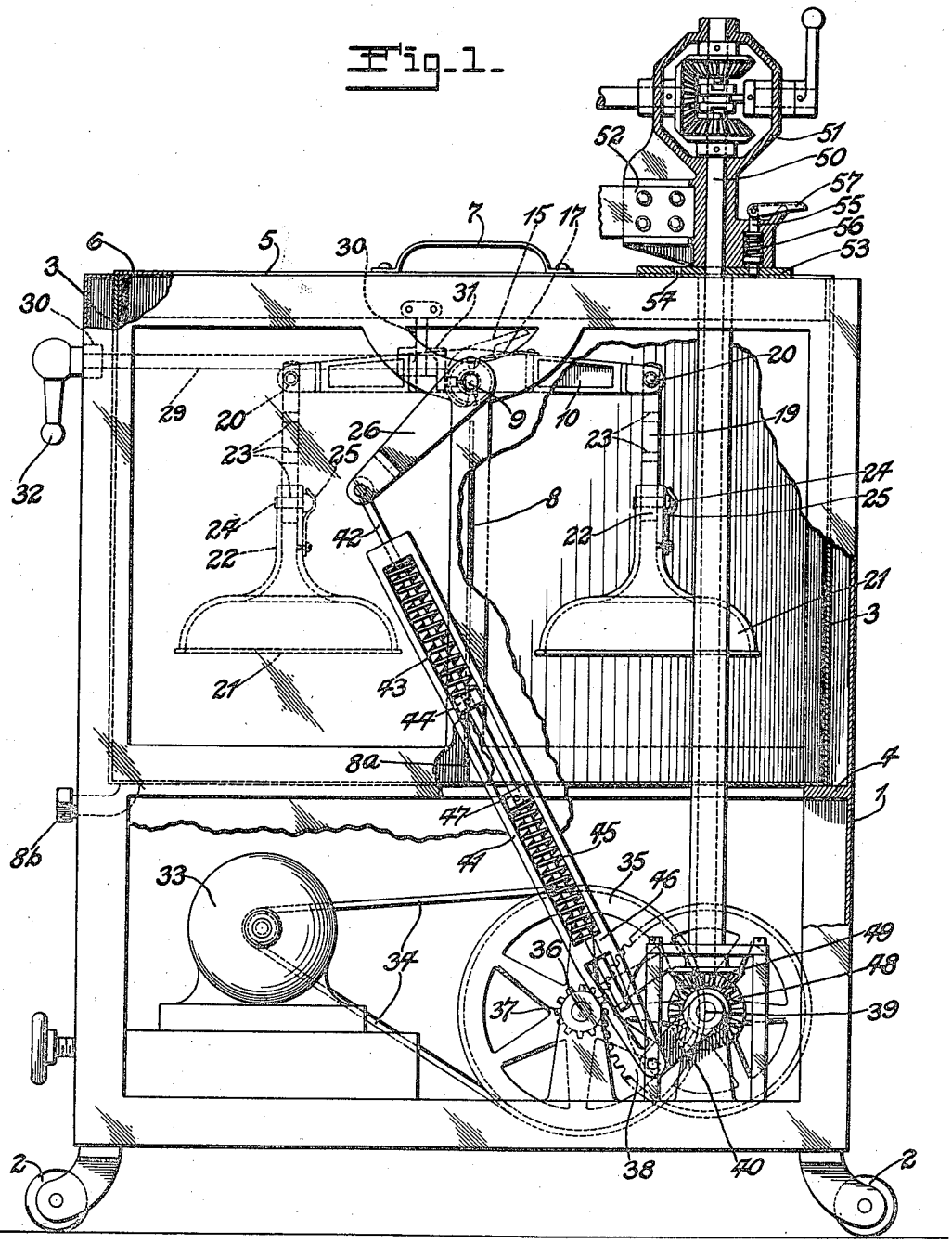
Apr. 10, 1923 1,451,547

J. H. KINTZELE

WASHING MACHINE

Filed Dec. 27, 1921 2 sheets-sheet 1

Fig. 1.



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Fig. 2.

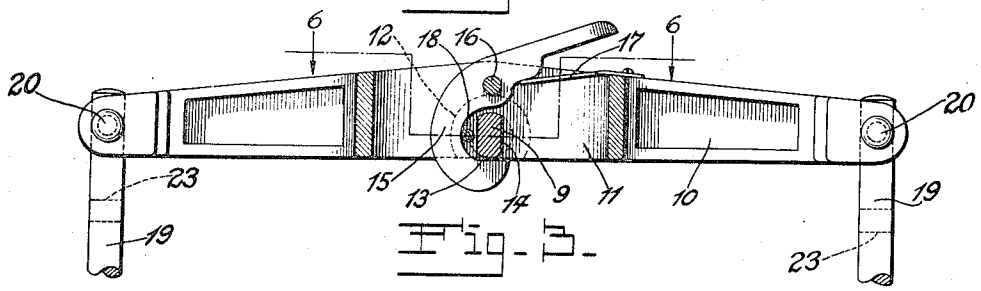


Fig. 3.

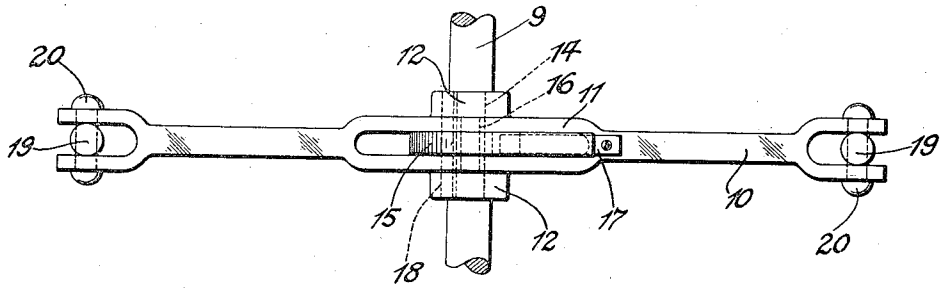


Fig. 4.

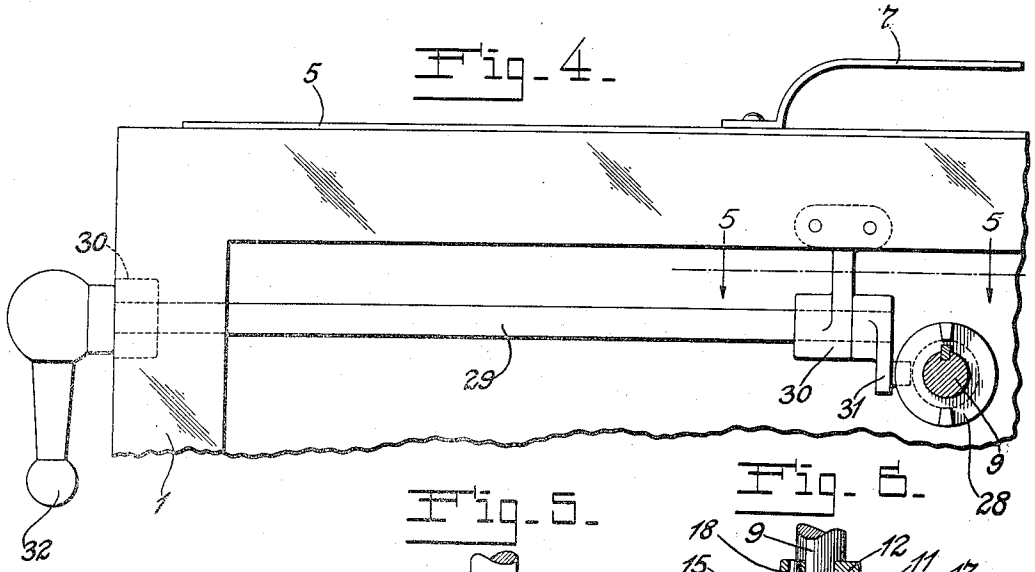


Fig. 5.

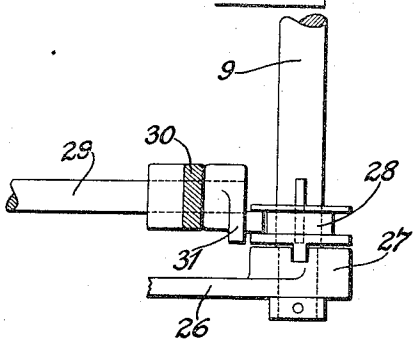
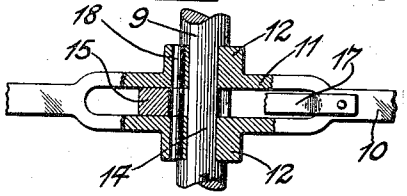


Fig. 6.



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Patented Apr. 10, 1923. 1,451,547

UNITED STATES PATENT OFFICE.

JULIUS H. KINTZELE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO STE. GENEVIEVE WASH MACHINE CORPORATION, OF STE. GENEVIEVE, MISSOURI, A CORPORATION OF MISSOURI.

WASHING MACHINE.

Application filed December 27, 1921. Serial No. 524,873.

To all whom it may concern:

Be it known that I, JULIUS H. KINTZELE, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented new and useful Improvements in Washing Machines, of which the following is a specification.

This invention relates to washing machines.

An object of the invention is to provide a washing machine including a pair of wash chambers and novel mechanism for operating plungers in the chambers for cleansing the clothes.

Another object of the invention is to provide a washing machine including a pair of plungers operating in separate chambers, a rocking device for operating the plungers, a driving gear, and novel connection from the driving gear for operating the rocking device, with provision for obtaining a yielding or cushioning effect to avoid strain upon any of the parts.

Another object is to improve generally the construction and mode of operation of the washing machine herein shown and described. In the drawings

Fig. 1 is an elevation, with parts broken away, showing one embodiment of the invention.

Fig. 2 is an enlarged view showing the mounting of the rocker arm by which the plungers are operated.

Fig. 3 is a plan view of the same.

Figs. 4 and 5 are views of the clutch device for controlling the lever by which the rocker arm shaft is supported and operated.

Fig. 6 is a sectional view showing the construction and arrangement by which the rocker arm is removably supported in connection with its shaft.

In the embodiment of the invention shown the machine comprises a frame 1 supported on caster rollers 2 so that the entire machine is easily movable from one position to another. The tub 3 may be composed of sheet metal as shown, or of other appropriate material, and is removably supported upon the flanges 4 extending inwardly from the metallic frame 1. The tub is provided with a removable lid or cover 5 having a depending flange 6 extending into the tub and is also provided with a handle 7 whereby the lid or cover may be moved.

The tub is divided into two compartments or chambers by a vertical partition 8 rising from the bottom wall of the tub and extending entirely across from one side wall to the other. Holes or passages 8^a are provided in the partition 8 near the bottom of the tub to permit flow and surge of the water from one compartment to the other when the machine is in use. A valved faucet 8^b is provided at one side of the tub to drain out the water.

A horizontal shaft 9 is supported for rocking movements near the top of the tub above the partition 8. A rocker arm 10 is supported on the shaft 9 midway between the side walls of the tub. A rocker arm extends about to the vertical axis of each of the chambers in the tub. The middle portion of the rocker arm is formed with a loop 11, each side of which has a laterally extended hub portion 12. A vertical notch 13 is formed in the under side of the loop and of the hub members and receives a flat portion 14 of the shaft 9. The flat portion 14 is formed by a pair of notches, one of which is at each side of the shaft 9, the thickness of the flat portion being about equal to the width of the notch 13. The rocker arm is placed upon the shaft 9 with the flat portion 14 within the notch 13 so that the rocker arm must rock with the shaft. A retaining device for holding the rocker arm in connection with the shaft comprises a hook 15 pivoted upon a pin 16 supported by the loop 11 above the shaft 9 and arranged to engage under said shaft as shown in Fig. 2. To actuate the hook to a position to engage under the shaft a spring 17 is provided, but said spring will yield when pressure is applied to the free end of the hook 15 in order to permit the hook to be disengaged from the shaft. A pin 18 supported by the loop 11 forms a support for the hook 15.

An arm 19 is pivotally connected to each end of the rocker arm 10 by a removable pin or bolt 20. A plunger 21 in the form of an inverted bowl is supported by each of the swinging arms 19 and is capable of different adjustments. Each of the plungers 21 is provided with a vertical sleeve portion 22 adapted to receive the lower end of the corresponding member 19. Each arm 19 is formed with a number of holes 23 for receiving the supporting pin 24 passing through corresponding holes in the sleeve portion 22 in order to support the plunger,

in connection with the arm. A spring 25 in connection with each of the sleeve portions 22 holds the pin 24 from displacement. Each plunger may be raised or lowered on its supporting arm 19 by removing the pin 24 and raising or lowering the plunger as desired and reinserting the pin.

The outer end of the shaft 9 pivotally supports an arm or lever 26 having a clutch portion 27 in connection therewith. A clutch member 28 feathered on the shaft 9 is movable into and out of engagemnet with the clutch 27. For this purpose a shift device comprising a rocking rod 29 is provided, the same being supported in bearings 30 and having a crank 31 engaging the clutch member 28. A lever 32 on the end of the rod 29 affords convenient means for turning the rod to move the clutch member 28 into and out of clutching engagement with the clutch 27. Obviously, when the clutch member 28 is out of engagement with the clutch member 27, the arm or lever 26 is free to operate without rocking the shaft 9, but when the clutch members are engaged the shaft 9 will be operated by the lever 26.

The operating mechanism shown comprises a motor 33 arranged to drive a belt 34 passing around a belt wheel or pulley 35. The belt wheel or pulley 35 is supported upon a shaft 36 having a small gear 37 thereon meshing with a large gear 38 on a shaft 39. The shaft 39 has an arm 40 attached thereto. A pitman connection in the form of a frame 41 has one end pivoted to the arm 40. A rod 42 is supported for movement within the pitman frame 41 and has its upper end pivoted to the lever 26. A spring 43 encircles the rod 42 within the pitman frame 41 and has its upper end bearing against the upper end of the pitman frame and its lower end bearing against a collar 44 on the rod 42. Another spring 45 also encircles the rod 42 and has its lower end bearing against a cross member 46 of the pitman frame and its upper end bearing against a collar 47 attached to the rod 42.

It is obvious that these connections from the driving mechanism to the rock shaft form effective cushioning devices so that the parts of the machine will not be subjected to strains or undue stresses when the machine is operated. Should the clothes in one of the compartments of the tub become rolled or packed, the machine will continue to operate properly even though movement of the plunger is stopped by the clothes. The springs 43 and 45 will yield to permit proper operation of the driving mechanism without corresponding movement by the shaft 9 and the rocker arm 10. That is, while the extent of movement of the pitman frame 41 is the same at each operation, the extent of movement of the rod 42 by which the washing mechanism is operated varies.

The machine is also equipped with wringer operating mechanism. As shown, the shaft 39 has a beveled gear 48 thereon meshing with a beveled gear 49 on the lower end of a shaft 50. A frame 51 for supporting the wringer frame 52 is centered on the shaft 50 and may be turned to different positions to swing the wringer frame 52 to different adjusted positions. A latch plate 53 is attached to the frame 1 below the frame 51 and is formed with a number of holes 54 for receiving a latch bolt 55 mounted in the frame 51, and actuated to a latching position by a spring 56 and from latching position by a lever 57.

From the foregoing it will be seen that my invention obtains all of its intended objects and purposes in a highly convenient, efficient and satisfactory manner. The plungers 21 may be easily adjusted in connection with their operating parts for use in washing large or small batches of clothes. The yielding connection between the driving mechanism and the washing mechanism obtains satisfactory operation of the washing mechanism under widely varying conditions.

It is apparent that the invention may be varied in numerous particulars without departure from the nature and principle thereof.

I do not restrict myself unessentially, but what I claim and desire to secure by Letters Patent, is:—

1. A washing machine, comprising a tub, a vertical partition dividing the tub into two compartments and having holes through the lower portion thereof, a rock shaft parallel with the partition below and near the top of the tub and having one end extending beyond the side wall of the tub, a rocker arm attached to the rock shaft within the tub and extending into each of the compartments, a plunger swingingly supported from each end of the rocker arm in said compartments respectively, a downwardly extending arm at one side of the tub, connections below the top of the tub for rocking the rock shaft by said arm, and gearing operatively connected with said arm for oscillating the same.

2. A washing machine, comprising a tub, a rock shaft journaled for rocking movements near the top of the tub, a rocker arm on said rock shaft extending toward the opposite sides of the tub, a releasable latch device holding the rocker arm in connection with the shaft, mechanism for rocking said shaft and thereby the rocker arm, and a plunger supported by each end of the rocker arm.

3. A washing machine, comprising a tub, a horizontal rock shaft supported for rocking movements below and near the top of the tub, a rocker arm extending from said

rock shaft to about the vertical axis of the tub, a releasable latch device holding said rocker arm in connection with said rock shaft for rocking movements therewith, a plunger supported by one end of said rocker arm, gearing, and connections operated by said gearing for rocking said shaft.

4. A washing machine, comprising a tub, a shaft journaled for rocking movements below and near the top of the tub, a rocker arm within and below the top of the tub, a latch device releasably holding said arm in connection with said shaft for rocking movements therewith, an arm suspended from the end of said rocker arm, an inverted bowl-shaped plunger supported by said swinging arm, and connections for rocking said rock shaft from said gearing.

5. A washing machine, comprising a tub, a shaft supported for rocking movements below and near the top of the tub, a rocker arm releasably supported by said shaft within and below the top of the tub for rocking movements with said shaft, a latch device holding said rocker arm in connection with the shaft, a swinging arm pivoted to the end of the rocker arm, a plunger supported by the swinging arm, gearing at one side and below the top of the tub for rocking said shaft, and a clutch device controlling the rocking of said shaft by said gearing.

6. A washing machine, comprising a tub, a shaft supported for rocking movements near the top of the tub, plungers in the tub, connections for operating the plungers by the shaft, an arm in connection with the shaft for rocking the shaft, gearing, and a connection between the gearing and said arm comprising a frame, a rod within the frame, and springs encircling the rod within the frame arranged to expand and contract in the operation of the machine.

JULIUS H. KINTZELE.